

Contents

Letters to the Editor

- Solar radio spikes: radiation at harmonics $s=2-6$
Güdel, M. L1
- Visibility-based continuum subtraction in spectral line observations with radio synthesis telescopes
van Langevelde, H.J., Cotton, W.D. L5
- A large anti-flare in the light curve of 3C 345
Kidger, M., Takalo, L. L9

Cosmology

- Transient phenomena and cluster formation
Zaninetti, L., Ferraro, M. 1
- Acquisition of angular momentum by tidal torques in expanding, spherical-symmetric density perturbations: an analysis of different approximations. II
Caimmi, R. 7
- Periodicity of redshift distribution in a T-3 universe
Fang, L.Z. 24
- The magnitude-redshift relation in a locally inhomogeneous universe
Xiangping Wu 29

Extragalactic astronomy

- Periodicity of quasar redshifts
Arp, H., Bi, H.G., Chu, Y., Zhu, X. 33
- Quasar redshifts and nearby galaxies
Karlsson, K.G. 50
- (RN) Extension to cosmic scales of the magnetic field versus gas density relationship
Vallée, J.P. 57
- Supernovae in the host galaxies of AGNs
Petrosian, A.R., Turatto, M. 63
- A multiwavelength study of the galaxy UGC 11000
Schulte-Ladbeck, R.E., Hopp, U. 69
- H₂ emission in galaxies: observational constraints on ultraviolet excitation
Moorwood, A.F.M., Oliva, E. 78
- (RN) Diagnostics of the underlying physical differences between flocculent and well-defined spiral galaxies
Cepa, J., Beckman, J.E. 85

- A CCD morphological study of the starburst galaxy NGC 7552
Feinstein, C., Vega, I., Mendez, M., Forte, J.C. 90
- Internal kinematics of low-luminosity ellipsoidal galaxies
Bender, R., Nieto, J.-L. 97
- Influence of microlensing on quasar statistics
Bartelmann, M., Schneider, P. 113
- The properties and origins of molecular gas in the lenticular galaxies NGC 404, 4710 and 5195
Sage, L.J. 125

Galactic structure and dynamics

- The Oosterhoff dichotomy revisited. III. An empirical approach to the RRab/RRc transition line in M 15 and ω Centauri
Caputo, F. 137

Stellar clusters and associations

- Core velocity dispersion and mass-to-light ratio of the old Magellanic globular cluster NGC 1835
Dubath, P., Meylan, G., Mayor, M., Magain, P. 142
- The optical counterpart of the X-ray binary in the globular cluster NGC 6712
Nieto, J.-L., Aurière, M., Sebag, J., Arnaud, J., Lelièvre, G., Blazit, A., Foy, R., Bonaldo, S., Thouvenot, E. 155

Formation, structure and evolution of stars

- A model of illuminated red dwarfs in cataclysmic variables
Sarna, M.J. 163
- Physical parameters of pulsating variables with periods between one and three days. II. Fundamental parameters
Diethelm, R. 186
- Phase lags from multiple flux curves of OH/IR stars
van Langevelde, H.J., van der Heiden, R., van Schooneveld, C. 193
- Colour excesses and absolute magnitudes for non-cepheid F-G supergiants from *wavy* photometry
Arellano Ferro, A., Parrao, L. 205
- Mass-flow oscillations in irradiated disks around neutron stars
Meyer, F., Meyer-Hofmeister, E. 214

Quasi-periodic precession of disks in X-ray binaries, with possible application to Centaurus X-3

Iping, R.C., Petterson, J.A. 221

Stellar atmospheres

Deficiency of CO emission from massive envelopes around cool OH/IR stars

Heske, A., Forveille, T., Omont, A., van der Veen, W.E.C.J., Habing, H.J. 173

An approximate Newton-Raphson method for multilevel line formation using the Sobolev theory

Swartz, D.A. 227

Investigation of micro-flaring and secular and quasi-periodic variations in dMe flare stars. VI. Quasi-periodicities in Gliese 644 AB (V 1054 Oph) prior to a large X-ray flare

Andrews, A.D. 235

Basic calibrations of the photographic *RGU* system. III. Intermediate and extreme Population II dwarf stars

Buser, R., Fenkart, R.P. 243

EXOSAT observations of three DA white dwarfs

Koester, D., Beuermann, K., Thomas, H.-C., Graser, U., Giommi, P., Tagliaferri, G. 260

Hot subluminescent stars at high galactic latitudes. II. Physical parameters and distances of 37 sdB stars

Moehler, S., Heber, U., de Boer, K.S. 265

Diffuse matter in space (including HII regions and planetary nebulae)

Extremely high-velocity emission from molecular jets in NGC 6334 I and NGC 1333 (HH 7-11)

Bachiller, R., Cernicharo, J. 276

Non-LTE effects in radio recombination lines from HII regions at 18 cm

Cersosimo, J.C., Magnani, L. 287

Metal-poor planetary nebulae with low-mass central stars

Maciel, W.J., de Freitas Pacheco, J.A., Codina-Landaberry, S.J. 301

The internal structure of molecular clouds. I. C¹⁸O, C³⁴S and NH₃ maps of the DR 21/W 75 S region

Wilson, T.L., Mauersberger, R. 305

Observations of the cyclic C₃H radical in the interstellar medium

Mangum, J.G., Wootten, A. 319

The Sun

Influence of turbulence on rising flux tubes in the solar convection zone

Choudhuri, A.R., D'Silva, S. 326

A correction to Spruit's equation for the dynamics of thin flux tubes

Choudhuri, A.R. 335

The height dependence of intensity structures in the solar photosphere

Komm, R., Mattig, W., Nesis, A. 340

Temporal and spectral characteristics of the circular polarization of solar microwave bursts

Bruggmann, G., Magun, A. 347

Dependence of the properties of solar magnetic flux tubes on filling factor. II. Results of an inversion approach

Zayer, I., Solanki, S.K., Stenflo, J.O., Keller, C.U. 356

The abundance of cadmium in the solar photosphere

Youssef, N.H., Dönszelmann, A., Grevesse, N. 367

The solar system

A Neck-Line Structure in the dust tail of the Great January Comet 1910 I

Pansecchi, L., Fulle, M. 369

Temporary satellite capture and orbital evolution of comet P/Helin-Roman-Crockett

Tancredi, G., Lindgren, M., Rickman, H. 375

Celestial mechanics and astrometry

An accurate solution for Nereid's motion. I. Analytic modeling

Oberti, P. 381

Secular perturbation theory of Jupiter and Saturn using an iterative method (Text in French)

Bretagnon, P., Simon, J.-L. 387

Physical and chemical processes

(RN) Local stability of thick accretion disks. II. Viscous and radiative effects

Abramowicz, M.A., Livio, M., Soker, N., Szuszkiewicz, E. 399

(RN) Stationary, cosmic-ray-modified shock fronts

Kirk, J.G. 404

Radiative lifetimes in Ti I

Salih, S., Lawler, J.E. 407

Nonlinear mean-field dynamo models: stability and evolution of three-dimensional magnetic field configurations

Rädler, K.-H., Wiedemann, E., Brandenburg, A., Meinel, R., Tuominen, I. 413

Implications of the unification of cosmic ray transport and galactic wind models

Pohl, M., Schlickeiser, R. 424

Particle heating in supernova shocks

Lesch, H. 437

Instruments, data processing, and computational methods

A simple method for monotonic interpolation in one dimension

Steffen, M. 443

Abstracts of articles which have been published in A. & A. Suppl. Ser. 84, No. 3, and 85, No. 1

Model-compared *RGU*-photometric space-densities in a field close to the galactic northpole: M 3 ($l=42^\circ$, $b=+78^\circ$)

Fenkart, R., Topaktas, L. 451

Stellar populations in medium redshift cluster. I. A set of model spectra based on VandenBerg's isochrones

Pickles, A.J., van der Kruit, P.C. 451

Galaxy redshifts with FLAIR

Parker, Q.A., Watson, F.G. 451

Deep CCD photometry of stars in the globular cluster M3		file to different energy transport mechanisms	
<i>Paez, E., Straniero, O., Martinez Roger, C.</i>	452	<i>Falchi, A., Falciani, R., Smaldone, L.A.</i>	453
Three new young objects from the IRAS Point Source Catalogue		Polarimetric observations of the blazars PKS 0521-365 and PKS 0537-441	
<i>Manchado, A., Garcia-Lario, P., Sahu, K.C., Pottasch, S.R.</i>	452	<i>Luna, H.G.</i>	453
The cluster system of the Large Magellanic Cloud		UBV photometry of NGC 6494 and metallicity considerations	
<i>Kontizas, M., Morgan, D.H., Hatzidimitriou, D., Kontizas, E.</i>	452	<i>Sanders, W.L.</i>	454
Multifrequency VLA observations of GHz-peaked-spectrum radio cores		Double star measurements made at Nice (Text in French)	
<i>O'Dea, C.P., Baum, S.A., Stanghellini, C., Morris, G.B., Patnaik, A.R., Gopal-Krishna</i>	452	<i>Muller, P.</i>	454
Compilation of atomic oscillator strengths for carbon, nitrogen and oxygen ions. The beryllium isoelectronic sequence (CIII, NIV, and OV)		A radio continuum survey of the Galactic Plane at 11 cm wavelength. II. The area $358^\circ \leq l \leq 76^\circ$, $-5^\circ \leq b \leq 5^\circ$	
<i>Allard, N., Artru, M.-C., Lanz, T., Le Dourneuf, M.</i>	453	<i>Reich, W., Fürst, E., Reich, P., Reif, K.</i>	455
Analysis of the optical spectra of solar flares. Sensitivity of the hydrogen Balmer signatures and of the Na-D ₂ line profile to different energy transport mechanisms		A radio continuum survey of the Galactic Plane at 11 cm wavelength. III. The area $76^\circ \leq l \leq 240^\circ$, $-5^\circ \leq b \leq 5^\circ$	
		<i>Fürst, E., Reich, W., Reich, P., Reif, K.</i>	455
		A radio continuum survey of the Galactic Plane at 11 cm wavelength. IV. A list of 6483 small diameter sources	
		<i>Fürst, E., Reich, W., Reich, P., Reif, K.</i>	455
		Papers accepted for publication in A. & A.	456